

Mrs. Green's book also bring out many interesting things concerning the "folklore" of trees, a subject on which much remains to be written. In addition, this being a book on trees of the Southern States, many species are included with which we at the north are less familiar, such as the Chinaberry, the Crape Myrtle, the Loblolly Bay, the Silver Bell and Snowdrop trees (*Halesia*) and the Sweetleaf, besides the southern pines. In addition, of course, most of the trees of the north are described.

Mr. J. S. Holmes, State Forester of North Carolina, who, I am proud to say, was once a pupil of mine at the Yale School of Forestry, has written a splendid foreword. The illustrations, of which there are many throughout the book, are admirable. I do not see how they could be improved. It is, altogether a beautiful book, and it is a pleasure to have the opportunity of reviewing it.

Two New Books on Genetics

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Sturtevant and Beadle, *An Introduction to Genetics**

"Genetics is a quantitative subject. It deals with ratios, with measurements, and with geometrical relationships of chromosomes. Unlike most sciences which are based largely on mathematics, it makes use of its own system of units." The preceding, the opening sentence of the Preface of Sturtevant and Beadle's new text, "An introduction to genetics," furnishes the keynote for the volume.

The book is significant in a number of ways. First, it is of interest to have a text-book treatment in formal genetics of which one of the authors was a chief collaborator with Morgan in establishing modern genetics. Second, it is important to have the point of view of genetics as a quantitative subject rigorously carried out in a book for class use. Third, the text is valuable for the recency and comprehensiveness of its factual data, and its discussion of their implications and applications. Recent advances in cytology during the past few years seem to have led to an enlarged understanding of the mechanics and significance of mitosis and

* An introduction to genetics. Sturtevant, A. H., and Beadle, G. W. G. W. Saunders. 1936. \$3.25.

meiosis; these are discussed in this text. While the Sturtevant and Beadle is relatively short and compact, readers will not find that matters of general interest have been omitted; for example, there are twenty-three index references to human inheritance. Evolution is indexed only once, but the experimental bases upon which evolutionary changes are predicated, gene differences, polyploidy, etc., receive careful attention. One whole chapter is devoted to "species differences."

In line with its emphasis on the mathematical aspects of the subjects, most of the chapters end with a series of selected problems for the student. The illustrations, relatively few in number, bear chiefly on the critical features of chromosome structure and behavior, and on differences in color and structure in *Drosophila*. An appendix contains an explanation of the mathematics of certain special problems. There is an extensive bibliography, and a brief but discriminating historical survey of the steps by which the cytogenetic basis of the gene concept of heredity was reached.

It appears certain that this text will be found essential for library reference, for maturer students of the subject, and for teachers in the field of biology. Its value as a specific text for class use will depend upon the level of the biological curriculum at which work in genetics is given, and the preliminary training set up as a prerequisite. Courses involving introduction to the principles of genetics are given through all the years of college undergraduate work and also as part of high school biology. Among the several textbooks by American authors, there is considerable range in difficulty and design; some like the Walter, the Shull, and the Snyder, are adapted for the more "popular" courses of the lower undergraduate years; others like the Castle, the Babcock and Clausen, and the Sinnott and Dunn, are better fitted for advanced undergraduate or graduate courses. The Sturtevant and Beadle belongs clearly in the latter group.

Waddington, An Introduction to Modern Genetics*

The thesis of this text by Waddington, "An introduction to modern genetics," is furnished by Bateson's original definition of the word, genetics, as quoted in the Introduction; as the science

* An introduction to modern genetics. Waddington, C. H. Macmillan. 1939. \$4.00